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| 10/019,590      | 03/15/2002  | Guenter Kastinger    | 1959                | 1784             |

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EXAMINER

NGUYEN, TRAN N

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2834

DATE MAILED: 02/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/019,590

Applicant(s)

KASTINGER ET AL.

Examiner

Tran N. Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) 1-26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Priority*

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Claim Objections*

**Claims 1-26** are objected to because of the following formalities:

**Among claims 1-26**, any of the terms “which”, “it”, “they”, “them”, “these”, “those”, “their” and “its” should be changed to the appropriate established-antecedent-basis subject matter because these terms do not clearly set reference and antecedent basis for the intended referred subject matter. For example, in claim 1, “A unipolar transverse flux machine, having a rotor (12) rotatable about a rotor axis (19), [which] said rotor has at least one rotor module (15)” (i.e., the term “which rotor” is changed to “said rotor” for clear antecedent basis reference. Another example, also in claim 1, “U- shaped stator yokes (24), fitting over the annular coil, [which] wherein said U-shaped stator yokes are fixed with a pitch corresponding to the tooth pitch on a housing (10)”. *The applicant is strongly suggested to review all the claims for appropriate changes to the proper established-antecedent-basis subject matters.*

**In claim 1**, “characterized in that the toothing of the rotor rings (16, 17) is provided solely on the outer circumference of the rotor rings (16, 17) remote from the rotor axis (19); that in the stator module (14), the stator yokes (24) are disposed such that one leg (241) of each of the stator yokes (24) is located facing one rotor ring (16), and the other leg (242) of each of the stator yokes (24) is located facing the other rotor ring (17), in each case with a radial gap spacing; and that one short circuit element (25; 251) each is disposed between successive stator yokes (24) in the direction of rotation of the rotor (12), which short- circuit element extends axially over both rotor rings (16, 17) and faces them with radial gap spacing”

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Should changed to:

“Characterized in that the tothing of the rotor rings (16, 17) is provided solely on the outer circumference of the rotor rings (16, 17) remote from the rotor axis (19); and, [that] in the stator module (14), the stator yokes (24) are disposed such that one leg (241) of each of the stator yokes (24) is located facing one rotor ring (16), and the other leg (242) of each of the stator yokes (24) is located facing the other rotor ring (17), *[in each case] wherein respective legs and respective rotor rings are spaced by [with] a radial gap spacing; and said stator including a plurality of [that one] short circuit elements (25; 251), wherein each of said short circuit elements is disposed between successive stator yokes (24) in the direction of rotation of the rotor (12), said [which] each short-circuit element extends axially over both rotor rings (16, 17) and faces [them] said respective rotor rings with radial gap spacing.*”

**In claim 2**, “such that the stator modules (14) or the rotor modules (15) are each rotated electrically from one another by 90°”

Should changed to “*such that modules of* the stator modules (14) *and* the rotor modules (15) are each rotated electrically from one another by 90 *electrical degrees*”

**In claim 3**, “such that the stator modules (14) or the rotor modules (15) are each here [verb missing] electrically from one another by  $360^\circ/m$ , where m is an integer and is greater than 2”

Should changed to “*such that modules of* the stator modules (14) *and* the rotor modules (15) are each *rotates electrically from one another by  $360/m$  electrical degrees*, where m is an integer and is greater than 2”

**In claim 4**, “the stator yokes (24) and short-circuit elements (25; 251) as well as the rotor rings (16, 17) are laminated.”

Should be changed to “*the stator yokes (24), the [and] short-circuit elements (25; 251), and [as well as] the rotor rings (16, 17) are laminated.*”

**In claim 6**, “the radial gap spacing between the stator yokes (24) and the rotor rings (16, 17), on the one hand, and between the short-circuit elements (25; 251) and the rotor rings (16, 17) on the other is of equal size.”

Should be changed to “*the radial gap spacing between the stator yokes (24) and the rotor rings (16, 17), [on the one hand and] is equal to the radial gap spacing between the short-circuit elements (25; 251) and the rotor rings (16, 17) [on the other is of equal size].*”

**In claim 7**, “the free end face (244) of the legs (241, 242) of the stator yokes (24) has at least the same axial width as the rotor rings (16, 17), but preferably protrudes past them on one or both sides.”

Should be changed to “*[the] each respective free end face (244) of the respective legs (241, 242) of the stator yokes (24) has at least [the] same axial width as the rotor rings (16, 17), and [but preferably protrudes] said free end face protruding past said rotor rings [them] on one or both sides thereof.*”

**In claim 9**, “the ratio of the tooth width ( $b_{ZR}$ ) of the teeth (22) on the rotor rings (16, 17) to the width ( $b_{ZS}$ ) of the stator yokes (24) and short circuit elements (25), each viewed in the direction of rotation, is selected to be greater than 1 and less than 2, and preferably equal to or less than 1.5.”

Should be changed to “*[the] a ratio of the tooth width ( $b_{ZR}$ ) of the teeth (22) on the rotor rings (16, 17) to the width ( $b_{ZS}$ ) of the stator yokes (24) and short circuit elements (25), each viewed in the direction of rotation, is selected to be greater than 1 and less than 2.*”

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**ADDED CLAIM 27**

***Claim 27. The machine of claim 9, characterized in that said ratio of the tooth width ( $b_{ZR}$ ) of the teeth (22) on the rotor rings (16, 17) to the width ( $b_{ZS}$ ) of the stator yokes (24) and short circuit elements (25), each viewed in the direction of rotation, is appropriately equal to 1.5."***

**Claim 10** should be changed to "The machine of claim 1, characterized in that the short-circuit elements (25) are in the form of a C-shape[,] each said C-shape having [with] two short legs (251, 252) each radially facing respective [a] rotor rings (16, 17) and having [with] one crossbar (253), connecting the legs of said C-shape to one another, [that] said crossbar extends parallel to the rotor axis (19) [on the inside, toward the rotor axis (19),] and opposes an inner peripheral side of the annular coil (23) of a circular shaped [, which is embodied circularly].

**Claim 11** should be changed to "The machine of claim 1, characterized in that the short-circuit elements (251) are in the form of a U-shape, each with two long legs (2511, 2521) radially facing respective [a] rotor rings (16, 17) and having [with] one crossbar (2531) connecting said [these] long legs and said crossbar extending parallel to the rotor axis (19); and said machine further characterized in that the annular coil (231) of the stator module (14) is shaped in meandering fashion, point-symmetrically to the rotor axis (19) in the radial plane, in such a way that in successive alternation the annular coil extends through the space between the legs (241, 242) of a stator yoke (24) and beyond an [the] outside region remoting from the rotor axis (19), of a crossbar (2531) of a short-circuit element (251).

**Claim 12** should be changed to "The machines of claim 11, characterized in that the stator yokes (24) and short-circuit elements (251) are embodied identically in size and shape".

**In claim 13** should be changed to "The machine of claim 10, characterized in that [the] respective free end faces (254 and 2541, [respectively]) of the legs (251, 25210 and 2511, 2521) of the short-circuit elements (25 and 251) have at least the same axial width as the rotor rings

(16, 17), said respective free end faces protruding past the respective rotor rings on one or both sides.

**Claim 14** should be changed to “The machine of claim 1, characterized in that the stator having a “m” number of plural stator modules, the stator modules (14) are supplied with current in current pulses bipolarly as a function of the rotational angle ( $\Theta$ ) of the rotor (12), and that the current pulses in the stator modules (14), wherein one of the two conditions occurs: when m is equal 2, there are two stator modules (14) are being phase-displaced by 90 electrical degrees from one another, and when m is greater than 2, said m number of the stator modules (14) are being [they are] phase-displaced from one another by 360/m electrical degrees. [, where m is an integer and is greater than 2.]

**In claim 15**, line 3, after “embodied identically” add “in size and shape”

**In claim 16**, change the term “gridlike” to “grid manner”; also, change “it” and “which” in “concentric to it, which are integrally joined” to proper referred subject matters with clear antecedent basis.

**In claims 18-19** change the recitation to avoid the uses of the terms “them”, “which” and “adapted to”.

**In claim 20** changed “The machine of claim 18, characterized in that the stator yokes (24) having respective crossbars (243), on both sides of [their] each of said respective crossbars (243)[,] [have] having a respective protruding hook (41), [which] when the stator yokes (24) have been inserted into the radial grooves (36) said hook fits by positive engagement over one radial rib (35) of the two half shells (31, 32)”

In claim 20, CHANGE “its” in “its back side remote from the radial groove (36)” to a proper referred subject matter with clear antecedent basis.

In claim 21 changed “The machine of claim 20 [in] characterized in that said machine is configured as an axial multi-lane structure [version], [in which] wherein the rotor modules (15)”

In claim 22 changed “The machine of claim 18, characterized in that said machine is configured as an axial multi-lane structure [embodiment], [in which] wherein the stator modules (14)”

*Again, The applicant is strongly suggested to review all the claims for appropriate changes to the proper established-antecedent-basis subject matters and avoiding any use of the terms “which”, “it”, “they”, “them”, “these”, “those”, “their” and “its”.*

The applicant is required to make appropriate corrections as suggested in the above. This application is in condition for allowance except for the following formal matters: Prosecution on the merits is **closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213. NO changes should be included, except for the aforementioned suggested changes; also, NO newly added claims, except for the suggested claim 27, should be submitted.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

***Allowable Subject Matter***

**Claims 1-26** are objected, but would be allowable if rewritten to correct the aforementioned formal issues in order to clarify the claimed language.



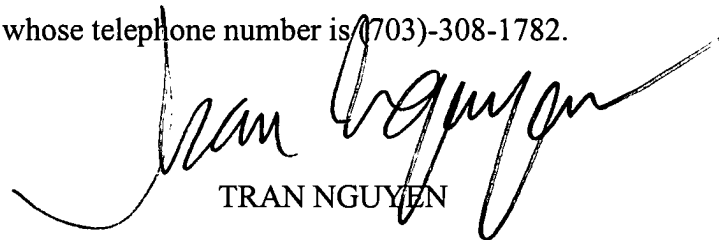
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***Communication***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N Nguyen whose telephone number is (703) 308-1639. The examiner can normally be reached on M-F 6:00AM-2:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703)-308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3431 for regular communications and (703)-395-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-1782.

A handwritten signature in black ink, appearing to read 'Tran Nguyen', is written over the printed name and title.

TRAN NGUYEN

PRIMARY PATENT EXAMINER

TC-2800